


# Vendor Financial Watch

QUARTER 1, 1988  
PERFORMANCE



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1280 Villa Street, Mountain View, CA 94041. (415) 961-3300



OCTOBER 1988

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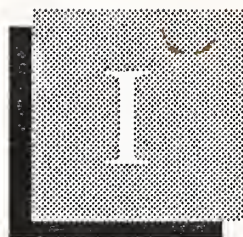
# INFORMATION SERVICES VENDOR FINANCIAL WATCH

Quarter 1, 1988  
Performance

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***Vendor Financial Watch***

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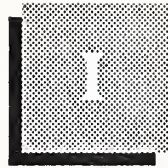
# Introduction

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## Introduction

The Vendor Financial Watch (VFW) is a quarterly INPUT comparison of up-to-date financial reports of public information processing/network services, professional services, software products, and turnkey systems companies, both for comparative purposes (vendor to vendor) and to enable participants in a given sector of the information services market to monitor the overall growth of their sector.

Each sector of the information services market is analyzed separately, from both a revenue and a net income standpoint. The growth trends are analyzed in the last three columns of each data sheet in increasing calendar sequence.

Each information services market sector is also commented on separately, highlighting individual company successes and failures and the trend in the market sector as a whole. Footnotes emphasizing extraordinary quarterly results are explained at the end of each section.

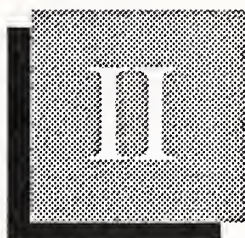
The summary analysis at the back of the VFW report analyzes the comparative trends between sectors and comments on the trend of the total information services market. This section is particularly important since it identifies growth patterns very clearly.

This quarterly Vendor Financial Watch is intended as a planning tool for market planning executives and as an information newsletter for company executives. The data contained herein are extracted from published sources, annual reports, and 10-K reports.

This issue covers 124 information services vendors.



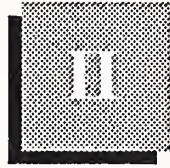




## Data Reported

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## Data Reported

The VFW report is divided into two sections:

- Information services delivery mode analysis.
- Total information services industry financial performance.

Financial data provided include each vendor's revenue and net income (reported on a calendar quarterly basis) and comparisons on performance for:

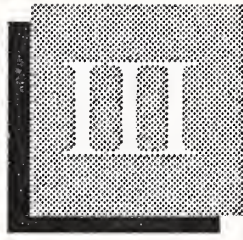
- 1987 versus 1986 (year on year).
- Last nine months' results compared to the year-earlier period.
- Last six months' results compared to the year-earlier period.

Fiscal quarterly revenue is approximated to calendar quarterly revenue as follows:

- Quarterly revenue reported as of February, March, and April is reported as first quarter.
- Quarterly revenue reported as of May, June, and July is reported as second quarter.
- Quarterly revenue reported as August, September, and October is reported as third quarter.
- Quarterly revenue reported as November, December, and January is reported as fourth quarter.

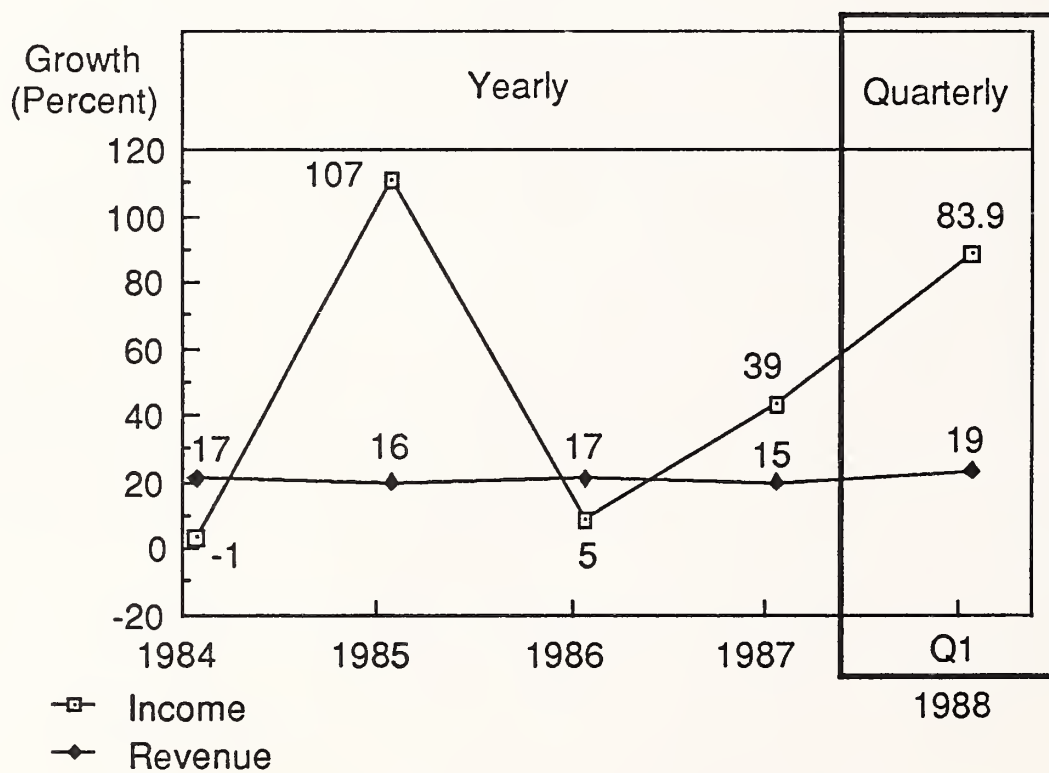
Fiscal year-end dates are provided in column 2 so that actual quarters for each company can be identified. Values that are followed by an asterisk (\*) are INPUT estimates, pending release of the final results from the vendor. These estimates are included so that the overall totals for each sector may be as complete as possible.

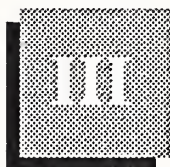




## Public Processing/Network Services Vendors

# PUBLIC PROCESSING/NETWORK SERVICES VENDORS





## Processing/Network Services Trends Analysis

Processing/network services include the following:

- Transaction services, which utilize vendor equipment and software at either the vendor's site or the customer's site and may be interactive or remote batch oriented
- Utility services, which provide access to basic software tools enabling the users to develop their own problem solutions (e.g., language compilers, assemblers, DBMSs, sorts, and scientific library routines)
- Other processing services, including carry-in batch processing, computer output microfilm services (COM), data entry services, and disaster recovery/backup services

Network services include the following:

- Value-Added Networks (VANs): network transmission facilities, augmented with computerized switching and features such as packet switching (store-and-forward message switching), electronic mail, terminal interface, and error detection and correction
- Electronic Data Interchange (EDI): application-to-application electronic communication, based on established business document standards.

Citizens Financial was removed from our list of public processing/network vendors after being acquired by Fiserv Inc. on May 11, 1988. Comnet was also removed as a result of its going private and becoming Computer Network Systems, Inc.

Growth for the processing/network services sector reached 19% during the first quarter of 1988. The growth leaders for the quarter were First Financial Management (221%), GTECH (45%), Cycare (38%), Total Systems Services (36%), and Concord Computing (35%)

Earnings growth was primarily due to the results of ADP, First Financial Management, and SEI. Many companies in this group experienced a drop in earnings for the quarter. The most notable drop was for Telecredit,



which sustained a \$17.9 million loss during first quarter. See footnotes for details regarding the loss.

The first-quarter profit margin for the group was 8%, compared to 9% growth for year 1987.

The total sample was 30 public processing/network service companies.

## REVENUES OF PUBLIC PROCESSING NETWORK SERVICES COMPANIES

		REVENUE (\$ Millions)										GROWTH (Percent)		
COMPANY NAME	FISCAL YEAR END	Q2	1986 Q3	Q4	TOTAL	Q1	Q2	1987 Q3	Q4	TOTAL	1988 Q1	1987/ 1986 %(+/-)	Last 3 Rolling Quarters	Last 2 Rolling Quarters
ADP	30-Jun	318.6	321.1	334.2	1298.1	373.7	355.3	361.3	376.7	1467.0	418.0 <sup>1</sup>	13	12	12
COMDATA NETWORK	31-Dec	21.7	21.8	21.0	86.6	25.2	25.9	25.5	24.0	100.6	24.9	16	10	6
COMP-U-CHECK	30-Nov	1.7	1.7	2.0	7.3	2.1	1.9	2.0	1.7	7.7	2.3	5	4	-3
COMPUTER LAN.	31-Dec	20.7	18.3	20.9	93.4	33.4	20.9	19.6	28.3	102.1	41.7 <sup>2</sup>	9	23	29
COMPUTER RES.	31-Aug	2.3	2.3	2.3	9.5	2.5	2.5	2.2	2.3	9.5	2.3	-1	-6	-5
COMPUTER SRVCS	28-Feb	2.8	3.0	2.9	11.8	3.3	3.0	3.2	3.2	12.7	3.2	7	4	3
CONCORD COMP.	30-Sep	3.3	3.7	4.4	14.4	4.4	4.7	5.3	5.8	20.1	5.9	40	36	33
CYCARE	31-Dec	14.7	14.3	15.3	57.2	14.9	16.9	17.2	18.7	67.7	20.6	18	27	30
DST SYSTEMS	31-Dec	24.7	25.7	26.9	100.2	31.9	35.6	35.6	34.4	137.5	33.8	37	23	16
DYATRON	31-Dec	7.7	8.4	9.3	33.1	8.3	8.9	9.7	9.7	36.6	9.5	11	11	9
FDP	30-Nov	3.9	3.1	3.1	13.5	3.0	4.1	4.0	3.2	14.2	3.2	6	13	5
FIRST FIN. MGT	31-Dec	15.2	15.5	24.6 <sup>3</sup>	69.7	26.5	27.4	29.4	91.9	175.1 <sup>4</sup>	85.1	151	210	246
FISERV	31-Dec	17.6	19.1	19.9	70.4	20.5	21.4	21.0	22.6	85.5	23.9 <sup>5</sup>	22	13	15
GTECH	25-Feb	17.9	26.3	60.4 <sup>6</sup>	131.5	26.9	25.0	34.8	40.6	127.3	39.1	-3	1	-9
HALE SYSTEMS	31-Mar	1.1	1.1	0.8	4.4	1.1	1.1	1.2	1.0	4.4	0.7	-1	-2	-6
ISI SYSTEMS	30-Jun	7.1	7.1	7.6	28.1	8.2	8.8	8.5	9.0	34.4	9.7	23	19	18
M/A/R/C	31-Mar	12.2	13.4	15.8	54.4	12.7	14.6	13.6	15.0	55.9	16.1	3	7	9
NATL DATA	31-May	37.8	37.6	39.3	153.7	40.0	42.0	43.4	42.5	167.9	44.2	9	11	9
NATL FSI	31-Dec	4.4	3.6	3.8	15.4	4.1	3.8	3.4	6.0	17.3	4.5	12	21	33
PAYCHEX	31-May	13.8	15.0	15.3	57.2	16.6	17.0	18.0	19.2	70.9	20.7	24	24	25
PAY-FONE	30-Jun	1.7	1.7	2.0	7.0	1.6	1.4	1.5	1.5	6.0	1.6	-15	-13	-13
SCICOM DATA	30-Jun	3.7	3.4	3.9	14.2	3.3	4.0	3.8	4.6	15.6	3.9	10	16	18
SCS/COMPUTE	30-Apr	1.3	1.4	1.9	15.8	13.4 <sup>7</sup>	1.5	1.7	6.3	22.9 <sup>8</sup>	15.0 <sup>9</sup>	45	37	39
SEI	31-Dec	30.4	27.6	31.9	118.5	29.9	30.4	29.9	32.6	122.7	33.3	4	7	6
SHARED MEDICAL	31-Dec	92.5	96.4	98.7	374.9	96.6	95.9	99.1	99.1	390.7	95.4	4	1	0
SYSTEMATICS	31-May	31.8	31.3	34.2	129.0	37.8	38.3	40.4	43.9	160.3	46.1	24	26	25
TELECREDIT	30-Apr	27.8	29.9	35.1	119.3	32.1	32.1	30.1	42.1	136.4	35.4 <sup>10</sup>	14	11	15
TOTAL SYS. SVC	31-Dec	9.0	9.1	10.0	36.4	9.7	10.8	12.0	13.8	46.3	13.2	27	35	37
TSR	31-May	5.3	6.0	6.4	22.5	5.9	6.1	6.3	6.1	24.4	5.9	9	0	-1
WORLCO DATA	31-Mar	2.3	2.7	2.7	9.5	3.2	2.7	2.8	2.8	11.5	1.9	21	-13	-20
TOTALS		754.8	771.7	856.6	3156.9	892.5	864.0	886.2	1008.5	3651.2	1061.0	16	17	18

30 COMPANIES



## NET INCOME OF PUBLIC PROCESSING NETWORK SERVICES COMPANIES

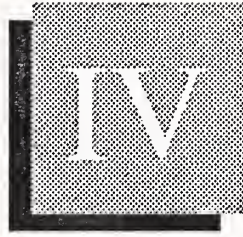
		NET AFTER TAX INCOME (\$ Millions)										GROWTH (Percent)		
COMPANY NAME	FISCAL YEAR END	O2	1986			O1	O2	1987			1988 O1	1987/1986 %(+/-)	Last 3 Rolling Quarts	Last 2 Rolling Quarts
ADP	30-Jun	31.0	22.7	30.0	115.5	39.3	40.1	30.4	40.1	149.8	51.2 <sup>11</sup>	30	32	32
COMDATA NETWORK	31-Dec	2.1	3.0	3.3	12.2	4.0	3.3	-0.4	-5.6 <sup>12</sup>	1.2	-1.9	-90	-178	-205
COMP-U-CHECK	30-Nov	0.2	0.1	0.1	0.5	0.1	0.1	-0.1	-1.2	-1.1	0.1	-314	-434	-552
COMPUTER LAN.	31-Dec	-1.3	-0.5	-3.0	0.2	4.3	-2.4	-2.9	-0.5	-1.5	5.1 <sup>13</sup>	-811	109	251
COMPUTER RES.	31-Aug	0.1	0.0	0.1	0.3	0.2	0.1	-0.1	0.1	0.3	-0.1	6	-143	-115
COMPUTER SRVCS	28-Feb	0.2	0.3	0.3	1.1	0.3	0.2	0.2	0.3	1.1	0.3	5	-1	4
CONCORD COMP.	30-Sep	0.0	0.0	0.2	0.2	0.2	0.3	0.4	0.6	1.5	0.7	645	355	276
CY CARE	31-Dec	0.8	0.7	0.7	2.9	1.7	0.9	1.0	0.1	3.8	1.1	31	-27	-49
DST SYSTEMS	31-Dec	2.7	3.1	5.5 <sup>14</sup>	13.2	4.3	5.1	5.3	5.1	19.8	5.0	50	19	3
DYATRON	31-Dec	0.0 <sup>15</sup>	0.2	1.5	1.9	0.5	0.6	0.9	1.5	3.5	0.8	85	45	16
FDP	30-Nov	0.1	0.0	0.1	0.3	-0.2	0.1	0.3	0.1	0.3	0.4	-7	1253	1235
FIRST FIN. MGT	31-Dec	1.4	1.4	1.6	5.5	1.9	2.3	3.0	4.4	11.6	5.3 <sup>16</sup>	111	156	175
FISERV	31-Dec	2.4	1.1	1.1	5.5	1.7	1.7	1.8	2.0	7.2	2.1	31	50	45
GTECH	25-Feb	-0.8	0.2	7.6 <sup>17</sup>	6.3	0.8	0.9	1.4	2.5	5.7	-0.1	-10	-55	-71
HALE SYSTEMS	31-Mar	-0.2	-0.2	-0.5	-5.4	0.3	-0.1	-0.1	-0.2	-0.1	-0.2	99	4	-49
ISI SYSTEMS	30-Jun	2.6	0.6	0.7	4.1	1.1	1.2	1.2	1.3	4.8	1.5	16	69	55
M/A/R/C	31-Mar	0.4	0.3	0.6	2.0	0.8	0.6	0.7	0.9	2.9	0.9	50	42	27
NATL DATA	31-May	-1.4 <sup>18</sup>	3.1	3.4	8.1	3.5	3.5	3.7	3.9	14.7	4.3	81	19	19
NATL FSI	31-Dec	0.0	0.0	-0.2	-0.4	0.1	-0.2	-1.3	0.2	-1.2	0.1	-219	-2014	491
PAYCHEX	31-May	1.3	1.5	1.0	4.6	1.1	1.4	1.8	2.1	6.3	1.5	36	51	72
PAY-FONE	30-Jun	0.1	0.2	0.3	0.7	-0.1	-0.5 <sup>19</sup>	0.1	0.0	-0.6	0.0	-179	-95	-120
SCICOM DATA	30-Jun	0.1	0.2	0.3	0.3	0.2	0.3	0.3	0.4	1.1	0.2	217	25	24
SCS/COMPUTE	30-Apr	-0.9	-0.9	-0.9	1.7	4.3	-1.2	-1.2	-0.1	1.8	4.8	7	39	37
SEI	31-Dec	0.9	-10.2 <sup>20</sup>	0.9	-7.1	1.7	2.2	2.7	2.9	9.4	3.3	233	217	133
SHARED MEDICAL	31-Dec	-7.4 <sup>21</sup>	13.5	14.3	32.0	12.8	10.7	10.9	10.9	45.3	10.5	42	-20	-21
SYSTEMATICS	31-May	3.0	1.8	2.5	10.3	3.6	2.3	2.9	4.2	13.0	4.3	27	45	40
TELECREDIT	30-Apr	1.4	2.1	3.5	8.3	2.6	2.8	3.2	4.9	13.5	-17.9 <sup>22</sup>	62	-221	-315
TOTAL SYS. SVC	31-Dec	1.2	1.3	1.7	5.2	1.4	1.5	1.9	2.4	7.2	1.9	37	41	41
TSR	31-May	0.0	0.2	0.2	0.5	0.2	0.1	0.2	0.2	0.6	0.2	15	-1	4
WORLCO DATA	31-Mar	0.1	0.1	0.2	0.7	0.0	-0.4 <sup>23</sup>	-0.4 <sup>24</sup>	-0.2	-0.9	-1.4	-237	-822	-1037
TOTALS		40.1	46.0	76.8	231.4	92.7	77.7	67.7	83.2	321.3	83.9	39	40	23

## Footnotes

1. ADP revenues and earnings for the quarter were buoyed by continued strength throughout their Employer Services business. This strength was partially offset by reduced transaction levels and increased product investments in Brokerage Services.
2. Computer Language's seasonal results are skewed by income tax business.
3. First Financial Management's increase in revenue reflected acquisitions of American Information Services, American Data Technology, and Mid-Continent Computer Services.
4. First Financial Management's significant growth resulted primarily from the acquisitions of First Data Management (data processing), NaBANCO (third-party credit card authorization), and Endata (imaging).
5. Fiserv, Inc. has merged with Citizens Financial Corporation. As a result, Champion Service Corporation, Citizens' primary operating subsidiary, will be providing data processing services to over 70 financial institutions. The combined assets are over \$15 billion.
6. GTECH's improvement in operating results was attributed to the sale of a major lottery network to the State of California.
7. SCS/Compute generates most of its revenue and all of its profits during the fourth quarter of its fiscal year.
8. SCS/Compute's results included the acquisition of Accountants Microsystems Inc. (AMI).
9. SCS/Compute's revenues reflect significant increases in tax processing services and accounting software products.
10. Telecredit decided in May 1988 to restructure and take as a one-time write-off its Light Signatures, Inc. subsidiary. The reported overall loss is despite outstanding results achieved by payment services.
11. ADP see footnote 1.
12. Comdata Network Inc. was acquired by Comdata Holdings Corporation through a merger completed on September 9, 1987. Since the merger was accounted for as a purchase, there are no comparable results for the prior year.
13. Computer Language see footnote 2.

14. DST Systems' income included a pretax gain of approximately \$3.7 million from the sale of partnership interests.
15. Dyatron's net income results for the past two quarters were attributed to internal training costs for new IBM System/36 software.
16. During first quarter 1988, First Financial saw a strong performance due to aggressive acquisition activities. Organizational changes have been made to provide simultaneously improved operational controls and growth opportunities of the basic businesses for the Financial Services group, the Merchant Credit Services group, and the Data Imaging Services group.
17. GTECH's loss included a \$1.2 million write-off of its investment in Videoway.
18. National Data's net loss included a write-off of its discontinued Rapidata time-sharing operation.
19. Pay-Fone's loss included the following nonrecurring expenses: litigation settlements paid to franchises, including related legal expenses; termination of an employment contract and related expenses paid to a former president; and special proxy contest costs.
20. SEI's loss included a one-time charge to operations consisting primarily of capitalized software costs and goodwill that were originally recorded as part of the 1982 acquisition of TMI Systems and the 1984 acquisition of the Financial Services Group of Index Systems.
21. Shared Medical Systems' loss was due to a write-off of its investments related to Shared Medical Systems International's (SMSI) Japanese subsidiary Ni Hon. SMSI has discontinued the Japanese operation.
22. Telecredit see footnote 10.
23. Worlco Data's loss for the quarter was attributed to a major expansion of personnel and computer systems in conjunction with a move to new facilities. In addition, the company experienced a reduction of margins in the circulation fulfillment area due to cutbacks at some publications and discontinued operations at others.
24. Worlco Data Systems' third-quarter loss was due to delays in the completion of a custom turnkey system developed for a large floorcovering company.



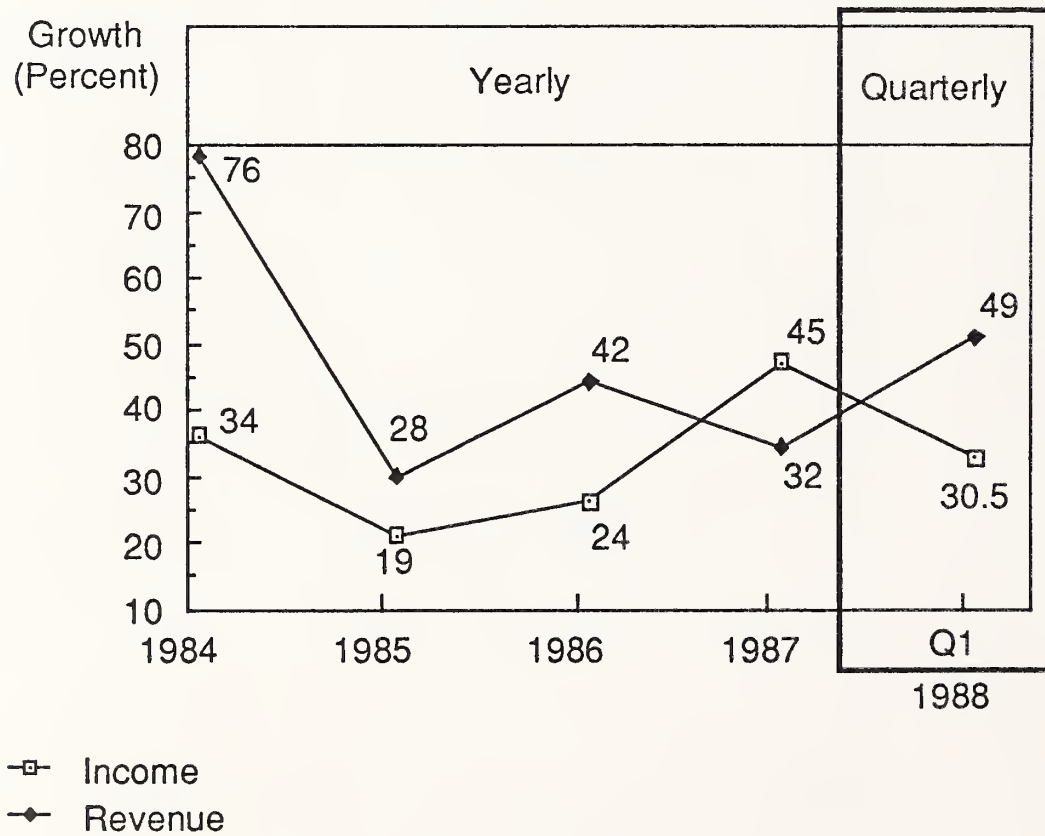


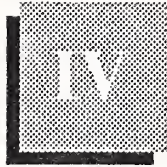
# Public Electronic Information Services Vendors





## PUBLIC ELECTRONIC INFORMATION SERVICES VENDORS





## Electronic Information Services Trends Analysis

Electronic information services include the following:

- Data bases that provide specific information via terminal-based inquiry, such as stock prices, legal precedents, economic indicators, and airline schedules.
- News services that offer current information either in general or in specific categories, such as financial or political.
- Videotex services, which provide interactive access to data bases and offer the inquirer the capability to send as well as receive information for such purposes as home shopping, home banking, and travel reservations.

Growth in revenues from electronic information services vendors jumped to 49% during first quarter 1988. CCX Network and Telerate are the major contributors, showing 383% and 50% growth respectively during the quarter.

Growth in earnings remained high at 46% for the first quarter, due primarily to strong showings from CCX Network (449%) and Epsilon (333%). Companies exhibiting the most significant declines in earnings were Information Resources (-192%) and LCS Industries (-73%).

The first-quarter profit margin for the group was 12%, compared to 12% growth for the year 1987.

The total sample was 6 public electronic information services companies.

## REVENUE OF PUBLIC ELECTRONIC INFORMATION SERVICES VENDORS

		REVENUE (\$ Millions)										GROWTH (Percent)		
COMPANY NAME	FISCAL YEAR END	Q2	Q3	1986 Q4	TOTAL	Q1	Q2	1987 Q3	Q4	TOTAL	1988 Q1	1987/ 1986 %(+/-)	Last 3 Rolling Quartrs	Last 2 Rolling Quartrs
CCX NETWORK	31-Dec	5.0	5.1	9.2 <sup>1</sup>	23.9	8.4	8.9	14.8	15.9	48.1	40.6	101	215	221
CUC INTL	31-Jan	35.2	37.8	41.9	141.8	45.2	48.9	51.1	53.4	198.5	58.2	40	30	28
EPSILON	31-May	14.9	11.8	13.1	53.5	11.7	10.6	9.4	13.5	45.2	13.3	-16	-1	8
INFO RESOURCES	31-Dec	21.8	23.8	26.7	93.6	26.0	28.2	26.1	25.1	105.5	27.1	13	2	-1
LCS INDUSTRIES	30-Sep	8.0	10.5	8.9	36.6	9.2	8.6	8.9	9.3	36.0	9.6	-2	-3	5
TELERATE	30-Sep	54.3	61.0	66.9	232.3	72.8	79.8	86.0	97.2	335.8	109.4	45	46	48
TOTALS		139.2	150.0	166.8	581.6	173.2	185.0	196.3	214.5	769.0	258.2	32	37	39

6 COMPANIES



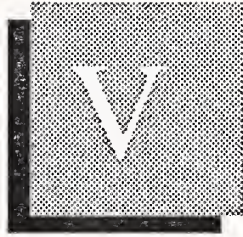
## NET INCOME OF PUBLIC ELECTRONIC INFORMATION SERVICES VENDORS

		NET AFTER TAX INCOME (\$ Millions)									GROWTH (Percent)			
COMPANY NAME	FISCAL YEAR END	1986				1987					1988 Q1	1987/ 1986 % (+/-)	Last 3 Rolling Quarts	Last 2 Rolling Quarts
		Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL				
CCX NETWORK	31-Dec	0.5	0.5	0.5	1.9	0.4	0.7	0.8	1.3	3.2	2.2	73	196	284
CUC INTL	31-Jan	2.0	2.5	2.7	8.5	3.3	4.2	4.7	5.2	17.4	6.0	105	87	86
EPSILON	31-May	-1.1 <sup>2</sup>	0.1	0.3	-0.7	-0.1	-0.1	-0.1	0.6	0.3	0.2	139	110	231
INFO RESOURCES	31-Dec	2.5	2.6	2.7	10.0	1.4	1.2 <sup>3</sup>	-2.4	-3.3 <sup>4</sup>	-3.0	-1.3	-130	-203	-212
LCS INDUSTRIES	30-Sep	-0.1	0.6	0.3	1.2	0.4	0.0	-0.5	0.0	-0.1	0.1	-106	-130	-81
TELERATE	30-Sep	10.1	11.1	12.9	43.2	15.5	17.3	19.2	23.3	75.2	23.3	74	67	64
TOTALS		13.8	17.4	19.4	64.1	20.9	23.3	21.7	27.1	93.0	30.5	45	37	43

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Footnotes

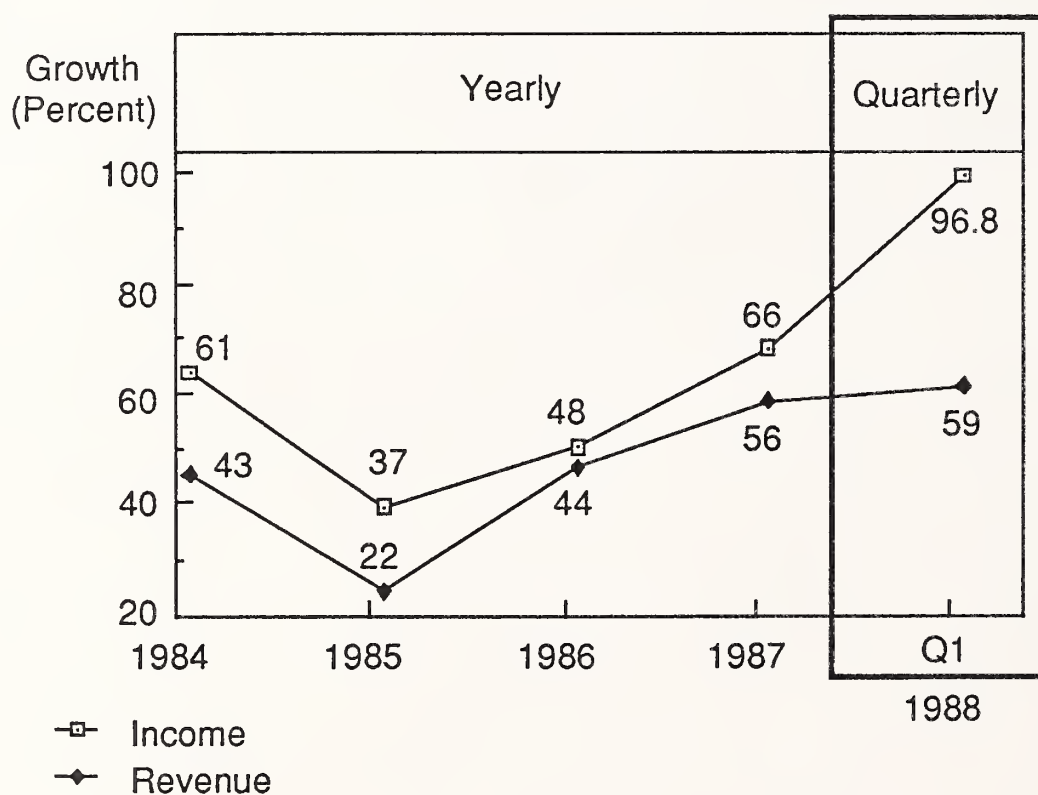
1. CCX Network's revenue includes the acquisitions of BSA (NJ) and Southwark Computer Services (London, England).
2. Epsilon's net loss reflects the recognition of costs associated with the termination of the company's role as servicing agent for Pan American's World Pass Program.
3. Information Resources' drop in earnings the first two quarters of 1987 was attributed to expenses related to the introduction of INFOSCAN.
4. Information Resources' third- and fourth-quarter losses were attributed to costs associated with the defunct merger with Dun & Bradstreet, the write-off of a lease obligation, and INFOSCAN expenses.

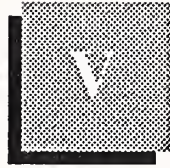


# Public Systems Software Products Vendors



# PUBLIC SYSTEMS SOFTWARE PRODUCTS VENDORS





## Systems Software Products Trends Analysis

Systems software products include the following:

- Systems control software, which includes operating systems, communications monitors, network control, library control, windowing, access control, and security
- Data center management software, which includes software for capacity management, scheduling, job accounting, performance monitors, tape management, utilities, and downtime repair monitoring management
- Application development tools, such as application generators, assemblers, compilers, 4GLs, automated documentation, languages, translators, data base management systems, and data dictionaries

Revenue growth for the systems software group continues to be very strong at 59% for the first quarter. The major contributors to this growth included Automated Language (448%), Informix (261%), Oracle (119%), and Adobe Systems (106%).

Earnings growth for the systems software group was reported at 72% for the first quarter. Strong showings by BGS Systems, Informix Software, and Computer Associates outweighed the significant loss of \$20.5 million by Cullinet.

The first-quarter profit margin for the group was 12%, compared to 12% for the year 1987.

The total sample was 20 public systems software companies.

## REVENUES OF PUBLIC SYSTEMS SOFTWARE PRODUCTS VENDORS

		REVENUE (\$ Millions)										GROWTH (Percent)		
COMPANY NAME	FISCAL YEAR END	Q2	1986 Q3	Q4	TOTAL	Q1	Q2	1987 Q3	Q4	TOTAL	1988 Q1	1987/ 1986 %(+/-)	Last 3 Rolling Quarts	Last 2 Rolling Quarts
ADOBE SYSTEMS	30-Nov	3.5	4.9	5.2	16.0	6.9	8.7	9.9	12.3	37.8	14.2	136	114	119
ASHTON TATE	31-Jan	49.0	57.7	62.9	210.8	60.2	63.6	68.0	75.5	267.3	72.4	27	19	20
AUTOMATED LAN.	31-Dec	0.9	0.9	1.5	4.4	1.1	0.9	0.8	0.8	3.5	6.2	-19	120	164
BGS SYSTEMS	31-Jan	3.5	2.9	2.9	12.6	3.1	3.7	3.4	3.5	13.6	3.9	8	21	23
BOOLE & BABBAGE	30-Sep	8.7	9.4	9.3	35.9	10.0	10.3	12.1	12.3	44.8	14.0	25	34	37
COGNOS	28-Feb	15.5	17.6	16.6	62.7	18.7	19.5	18.4	18.0	74.7	27.0	19	20	27
COMPUTER ASSOC.	31-Mar	82.8	96.1	93.6 <sup>1</sup>	330.2	102.0	139.3	168.3	195.1	604.7 <sup>2</sup>	206.4	83	95	105
CULLINET	30-Apr	31.3	34.2	43.0	162.8	61.1 <sup>3</sup>	49.0	49.1	54.2	213.4	64.3	31	21	14
DUQUESNE SYS.	30-Sep	7.4	7.4	8.6	28.8	9.8	9.1	10.2	12.0	41.0	12.4	42	34	33
INFODATA SYS.	31-Dec	2.2	2.8	3.6	11.2	3.2	2.5	2.8	3.0	11.5	2.8	3	-9	-14
INFORMIX S/W	31-Dec	4.6	5.7	6.6	21.1	7.1	9.1 <sup>4</sup>	11.4	14.0	41.6	25.8	97	162	188
INTELLICORP	30-Jun	5.4	4.1	4.9	19.9	5.5	5.8	5.1	5.0	21.3	5.0	7	3	-5
MICROSOFT	30-Jun	62.0	66.8	81.0	260.2	98.4	99.8	102.6	155.9	456.7	161.8	75	71	77
MORINO ASSOC.	30-Jun	5.9	6.9	9.3	28.7	9.1	8.0	9.2	12.5	38.8	12.2	35	34	34
ON-LINE S/W	31-May	11.3	9.7	12.7	42.4	19.8 <sup>5</sup>	21.4	18.5	16.9	76.7	23.6	81	40	24
ORACLE	31-May	20.8	17.6	28.4	82.8	34.9	50.4 <sup>6</sup>	41.3	60.3	186.9	76.3	126	120	116
PANSOPHIC	30-Apr	20.1	24.3	34.6 <sup>7</sup>	101.5	34.9	33.6	37.4	43.6	149.6	50.6	47	40	36
SAGE SOFTWARE	30-Apr	3.0	3.4	3.8	13.8	4.3	2.8	3.4	4.1	14.6	4.3	5	2	3
SYNERCOM TECH.	31-Oct	3.7	3.9	1.4	14.2	2.5	2.9	3.5	4.1	13.0	2.9	-8	35	80
VM SOFTWARE	31-Dec	6.2	6.0	10.4 <sup>8</sup>	27.0	6.3	6.8	6.0	11.5	30.6	8.0	13	12	17
TOTALS		347.8	382.3	440.4	1487.1	499.0	547.2	581.4	714.6	2342.1	794.1	57	58	61

20 COMPANIES



## NET INCOME OF PUBLIC SYSTEMS SOFTWARE PRODUCTS VENDORS

		NET AFTER TAX INCOME (\$ Millions)										GROWTH (Percent)		
COMPANY NAME	FISCAL YEAR END	Q2	1986			Q1	Q2	1987			1988 Q1	1987/1986 % (+/-)	Last 3 Rolling Quarters	Last 2 Rolling Quarters
ADOBE SYSTEMS	30-Nov	0.9	1.2	1.0	3.6	1.6	2.0	2.3	2.7	8.6	3.6	140	131	146
ASHTON TATE	31-Jan	6.5	7.9	10.6	30.1	9.1	10.1	11.1	12.8	43.1	11.1	43	26	21
AUTOMATED LAN.	31-Dec	0.1	-0.1	0.4	0.5	0.2	-1.1 <sup>9</sup>	-1.4	-4.7	-7.1	-0.5	-1551	-1591	-1085
BGS SYSTEMS	31-Jan	0.2	0.0	-0.2	0.4	0.0	0.2	0.2	0.2	0.5	0.5	24	439	345
BOOLE & BABBAGE	30-Sep	0.2	0.3	0.4	1.3	0.5	0.5	0.6	3.9	5.6	0.9	340	345	438
COGNOS	28-Feb	1.9	1.9	1.4	6.0	1.8	1.5	1.2	-1.8	2.7	2.2	-55	-69	-86
COMPUTER ASSOC.	31-Mar	4.4	6.1	16.4 <sup>10</sup>	32.2	11.2	4.1	16.0	42.8	74.1	33.8	130	175	178
CULLINET	30-Apr	-10.6	-5.9	-4.9	-17.8 <sup>11</sup>	-4.1	8.0	-5.8	-12.7 <sup>12</sup>	-14.6	-20.5 <sup>13</sup>	18	-161	-266
DUQUESNE SYS.	30-Sep	1.5	1.5	1.9	6.0	2.2	1.8	2.2	2.7	8.9	2.7	49	35	31
INFODATA SYS.	31-Dec	-0.4	0.3	0.4	0.4	0.3	0.1	0.2	0.6	1.1	0.2	190	3	13
INFORMIX S/W	31-Dec	0.5	0.7	0.9	2.5	0.8	1.2	1.9	2.0	5.9	2.5	141	162	162
INTELLICORP	30-Jun	3.6	-0.9	-0.5	2.8	0.1	-2.7 <sup>14</sup>	-0.6	-1.0	-4.3	-0.3	-251	-50	-194
MICROSOFT	30-Jun	11.5	15.8	19.7	57.7	19.1	17.3	21.3	35.3	92.9	37.3	61	72	87
MORINO ASSOC.	30-Jun	0.6	1.1	2.0	5.1	2.3	0.8	1.6	3.0	7.7	2.5	49	32	28
ON-LINE S/W	31-May	0.9	0.7	1.0	3.4	1.5	1.7	1.0	1.7	5.9	1.9	75	43	44
ORACLE	31-May	2.6	0.1	3.0	7.8	4.8	7.6 <sup>15</sup>	3.2	7.7	23.3	13.0	198	197	162
PANSOPHIC	30-Apr	2.4	3.6	6.2	16.0	4.6	2.6	4.2	7.7	19.1	5.7	20	22	24
SAGE SOFTWARE	30-Apr	0.0	0.4	0.6	1.6	0.7	0.2	0.3	0.6	1.8	0.4	15	-28	-25
SYNERCOM TECH.	31-Oct	1.4	-0.1	-1.9	0.5	-1.0	-0.5	-2.2 <sup>16</sup>	0.1	-3.6	-0.8	-785	4	76
VM SOFTWARE	31-Dec	1.0	0.8	2.5 <sup>17</sup>	4.9	0.8	0.1	0.2	2.3	3.4	0.6	-31	-24	-10
TOTALS		29.1	35.6	60.7	164.8	56.4	55.6	57.1	105.9	275.0	96.8	67	70	73

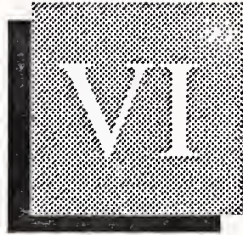
## Footnotes

1. Computer Associates' revenue included results of the ISSCO and Software International acquisitions made during the fourth quarter.
2. Computer Associates' revenue included results of the UCCEL acquisition.
3. Cullinet's revenue reflects the 1987 business combination with Distribution Management Systems.
4. Informix Software's revenue growth reflects marketing agreements made with Foxboro Company, a leading Informix VAR, and with Hewlett-Packard, a large Informix end user; growth also reflects several DBMS and add-on product introductions, including Informix Turbo, Informix Datasheet Add-In, and Report DB2.
5. On-Line Software's revenue reflected the products acquired from Martin Marietta in October, 1986.
6. Oracle's improved revenue in the past two quarters reflects an increased number of installations as Oracle increased the number of computers and operating systems on which ORACLE operates. Some of the increase in revenue was due to unbundling of products.
7. Pansophic's increased revenue reflects the Professional Computer Resources and Remote Data Systems acquisitions, as well as an improvement in domestic operations, especially product and license revenue contributions by Telon, Easytrieve Plus, and Easytrieve Plus PC.
8. VM Software's increased revenues resulted from an increase in unit product licenses, the introduction of new products, new releases of existing products, general price increases, and revenues recorded under the marketing agreement with IBM.
9. Automated Language's losses reflected a decrease in computer systems sales, which reportedly resulted from management's decision to shift the focus in the translation market from that of a software provider to that of a full translation services provider. In addition, the loss included increased costs associated with advertising, the company's acquisition strategy, and relocation of headquarters.
10. See footnote 1.
11. Cullinet Software's first fiscal quarter loss included a \$7 million write-off of the remaining assets acquired from Computer Pictures. The company attributes its remaining losses to decreased revenues due to a sluggish mainframe market and increased competition.



12. Cullinet's loss during its third quarter of fiscal 1988 included a \$13.7 million pretax charge for the write-down of outdated mainframe software purchased a year or more ago, as well as the adjustment of accounts receivable and some notes reflecting restructured arrangements with overseas sales representatives.
13. Cullinet had a loss before taxes of \$24.0 million, which included a one-time charge of \$14.8 million for a restructuring of the company. The realignment of functions within the organization included a divestiture of the remaining assets of Computer Pictures Corp., and a reduction in force of approximately 400 employees.
14. Intellicorp's loss during its fourth fiscal quarter included write-offs of obsolete hardware inventory and costs associated with a reduction in staff.
15. Oracle's increased earnings during the previous quarters reflected significant gains in revenue, which the company attributes to the acceptance of SQL as an industry standard.
16. Synercom Technology's loss resulted from costs associated with the company's movement out of selling workstations, in addition to a major reorganization of management.
17. See footnote 8.

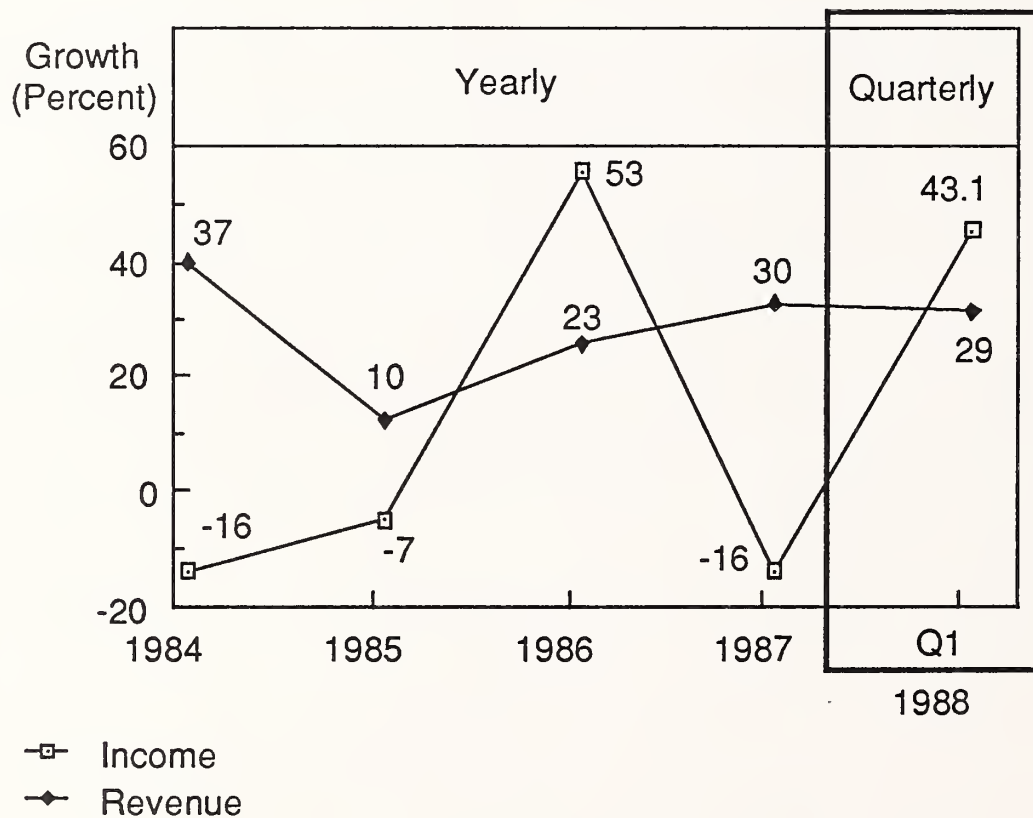


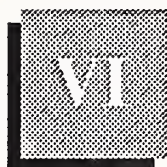


# Public Application Software Products Vendors



## PUBLIC APPLICATION SOFTWARE PRODUCTS VENDORS





## Application Software Products Trends Analysis

Application software products include the following:

- Industry-specific applications software unique to a specific vertical market and sold to that market only (e.g., demand deposit accounting, MRPII, hospital patient tracking)
- Cross-industry applications software used by clients in many or all vertical markets (e.g., payroll, word processing, spreadsheets, and accounts receivable)

Growth in revenue for this segment continues to be strong at 29%. Innovative (340%) and Systems Software (120%) led the growth.

Growth in earnings for this group continues to be sporadic. After a drop in earnings during 1987, the first quarter 1988 showed significant gains. Genessee and ECAD generated positive gains while Scientific Software and Micropro Intl sustained the most significant losses for this quarter.

The first-quarter profit margin for the group was 10%, compared to 5% for 1987.

The total sample of companies was 22 public application software companies.

## REVENUES OF PUBLIC APPLICATION SOFTWARE PRODUCTS VENDORS

		REVENUE (\$ Millions)									GROWTH (Percent)			
COMPANY NAME	FISCAL YEAR END	1986				1987					1988 Q1	1987/1986 % (+/-)	Last 3 Rolling Quarts	Last 2 Rolling Quarts
		Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL				
AMERICAN S/W	30-Apr	10.0	10.8	13.1	44.2	12.8	11.2	13.5	15.2	52.7	14.3	19	17	14
AUTODESK	31-Jan	12.2	13.7	15.5	52.4	17.3	18.8	20.2	23.0	79.3	25.8	51	48	49
COMSHARE	30-Jun	16.9	16.8	17.4	68.0	17.4	18.6	17.3	21.7	75.0	19.5	10	13	18
CYBERTEK	31-Mar	6.5	6.4	6.5	26.9	6.4	5.2	5.9	5.4	22.8	5.8	-15	-12	-13
ECAD	31-Dec	4.3	4.0	4.6	16.6	4.9	5.7	6.1	7.1	23.9	7.3	44	52	51
GENESSEE	31-May	0.3	0.3	0.4	1.2	0.2	0.2	0.2	0.3	1.0	0.3	-15	-6	1
HEALTH INFO.	30-Jun	0.3	0.7	0.8	2.5	0.7	0.6	0.6	0.7	2.5	0.5	3	-18	-19
HOGAN SYSTEMS	31-Mar	12.1	10.8	10.9	41.0	13.4	11.4	10.4	12.1	47.2	12.8	15	1	3
INFO. SCIENCE	30-Apr	3.6	4.2	3.8	16.2	3.7	3.2	2.8	2.8	12.4	2.8	-23	-28	-26
INNOVATIVE	30-Jun	4.4	3.4	3.6	15.1	5.9 <sup>1</sup>	6.0	6.3	8.7	26.9	25.8	78	216	265
LOTUS DEVLPMNT	31-Dec	66.2	65.6	81.8	282.9	84.8	94.0 <sup>2</sup>	101.2	115.6	395.6	117.3	40	44	40
MACNEAL-SCHWEND	31-Jan	6.5	7.0	7.4	27.1	7.8	8.5	8.6	9.7	34.5	9.7	28	26	27
MSA	31-Dec	47.6	38.8	77.7 <sup>3</sup>	193.4	53.4	82.6	56.8	65.7	258.5	62.9	34	9	-2
MICROPRO INTL	31-Aug	6.9	10.5	8.4	36.3	9.2	11.4	12.3	10.3	43.2	10.1	19	16	16
POLICY MGMT	31-Dec	35.2	39.7	43.6	150.6	41.5	43.6	46.2	48.8	180.1 <sup>4</sup>	50.0	20	16	16
SCIENTIFIC S/W	31-Dec	6.4	5.8	8.5	28.3	6.5	6.7	5.8	8.5	27.6	4.7	-2	-9	-12
SILVAR-LISCO	30-Apr	5.9	6.3	6.1	24.5	7.7	5.9	6.1	6.2	25.9	5.9	5	-9	-12
SOFTWARE PUB.	30-Sep	4.6	6.4	8.7	25.4	10.9 <sup>5</sup>	8.3	10.7	14.0	43.9	15.2	73	54	49
S/W SVC AMER.	31-May	0.4	0.5	0.8	2.3	1.2	1.8	2.9	1.3	7.2	2.1	209	156	71
STOCKHLDR SYS.	31-Mar	2.4	3.4	3.3	12.5	4.8	4.1	5.0	5.2	19.0	5.8	52	38	35
SYSTEM SOFT.	31-Oct	3.5	5.3	5.0	17.7	6.4	8.6	11.0	11.5	37.5 <sup>6</sup>	14.0	112	120	124
TIMBERLINE S/W	31-Dec	1.6	1.3	2.1	7.2	1.9	1.9	1.8	2.1	7.7	2.2	6	11	5
TOTALS		257.9	261.5	329.9	1092.1	318.9	358.0	351.6	395.8	1424.3	412.7	30	28	25

22 COMPANIES

## NET INCOME OF PUBLIC APPLICATION SOFTWARE PRODUCTS VENDORS

		NET AFTER TAX INCOME (\$ Millions)										GROWTH (Percent)		
COMPANY NAME	FISCAL YEAR END	Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL	1988 Q1	1987/1986 % (+/-)	Last 3 Rolling Quarters	Last 2 Rolling Quarters
AMERICAN S/W	30-Apr	1.7	2.1	2.9	8.6	2.1	1.3	2.5	3.9	9.7	2.7	14	28	33
AUTODESK	31-Jan	2.7	3.0	3.5	11.6	3.9	4.8	5.4	6.4	20.5	7.2	77	84	85
COMSHARE	30-Jun	0.1	0.5	0.7	1.1	0.4	0.6	-0.9 <sup>7</sup>	1.4	1.5	0.8	45	-20	103
CYBERTEK	31-Mar	0.6	0.4	0.5	2.4	0.3	-0.3	0.2	0.3	0.5	0.1	-79	-52	-50
ECAD	31-Dec	0.5	0.3	0.4	1.5	0.3	0.8	0.9	1.1	3.2	1.1	111	204	193
GENESSEE	31-May	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.04	-23	42	93
HEALTH INFO.	30-Jun	-3.6	-0.4	-0.4	-7.3	-0.5	-1.3	-0.5	-0.5	-2.8	-0.7	61	-31	-39
HOGAN SYSTEMS	31-Mar	1.1	2.0	2.9	1.8	3.4 <sup>8</sup>	1.9	-2.8	1.9	4.3	1.1	143	-98	-52
INFO. SCIENCE	30-Apr	-2.6	-3.2	-0.3	-8.8 <sup>9</sup>	-0.5	-0.9	-2.7	-0.6	-4.7	-0.6	47	1	-48
INNOVATIVE	30-Jun	0.8	0.4	0.2	2.2	1.3	0.7	0.8	0.5	3.4	2.5	56	92	93
LOTUS DEVLPMNT	31-Dec	11.8	9.5	15.6	48.3	13.7	16.3	19.1	22.9	72.0	18.3	49	55	41
MACNEAL-SCHWEND	31-Jan	1.6	1.8	1.9	7.0	2.0	2.2	2.4	2.5 <sup>10</sup>	9.1	2.2	29	25	22
MSA	31-Dec	5.9	0.3	13.0 <sup>11</sup>	18.7	-72.6 <sup>12</sup>	18.7	-8.4	-8.7	-71.0	2.4	-479	75	89
MICROPRO INTL	31-Aug	-2.4	-0.3 <sup>13</sup>	0.0	-1.8	0.5	1.6	0.8	0.0	2.9	-2.2	258	-708	-482
POLICY MGMT	31-Dec	3.2	3.6	3.9	13.8	3.9	4.0	4.4	4.7	17.1	4.8	24	23	22
SCIENTIFIC S/W	31-Dec	-13.3 <sup>14</sup>	0.1	-0.7 <sup>15</sup>	-13.9	0.1	0.2	0.0	0.3	0.5	-1.6	104	-140	-97
SILVAR-LISCO	30-Apr	0.1	0.0	-0.2	0.1	0.4	-4.8 <sup>16</sup>	-0.8 <sup>17</sup>	0.1	-5.1	0.02	-4540	-473	-15
SOFTWARE PUB.	30-Sep	-0.7 <sup>18</sup>	0.5	1.2	1.3	1.6 <sup>19</sup>	0.9	1.5	2.5	6.5	2.8	390	107	88
S/W SVC AMER.	31-May	-0.6	0.1	0.3	-0.2	0.2	0.0	0.1	0.2	0.5	-0.1	315	-52	-58
STOCKHLDR SYS.	31-Mar	0.2	0.7	0.6	2.2	0.8	0.5	1.0	0.9	3.2	1.0	41	36	34
SYSTEM SOFT.	31-Oct	0.3	0.7	0.5	1.9	0.7	1.0	1.1	1.1	3.9	1.0	103	68	73
TIMBERLINE S/W	31-Dec	-0.1	-0.2	0.3	-0.2	0.1	0.0	0.1	0.2	0.4	0.1	372	295	-5
TOTALS		7.5	21.9	46.7	90.3	-37.9	48.3	24.1	41.2	75.7	43.1	-16	253	855



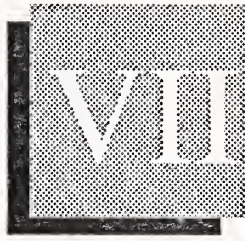
## Footnotes

1. Innovative Software's revenue gain was attributed to the release of the network-ready version of Smart. During this quarter, NCR placed a major order for SmartWare products.
2. Lotus' improved revenue in recent quarters has been due to success with new products such as Lotus HAL, Lotus Manuscript, Freelance Plus, and One Source, in addition to strong sales of core spreadsheet products.
3. MSA's revenues reflect its acquisition of Comserv.
4. Policy Management Systems results include several acquisitions, including Allied Research, Oregon and Consolidated Insurance Services, Aavant Health Management Group, Jensen and More, and Nationwide Computer Services.
5. Software Publishing's improved revenue reflects market acceptance of the company's new product.
6. System Software Associates results include the acquisitions of ASE Services and Outlook Inc.
7. Comshare's loss was attributed to lower than expected sales by the company's European subsidiary, Comshare Ltd.
8. Hogan Systems' results were attributed to increases in all revenue categories, coupled with cost control measures implemented during the year. In addition, Hogan acquired Systems 4, Inc.
9. Information Science's loss in 1986 resulted from decreased revenue from integrated payroll/personnel/benefits software due to the tax reform announcement and due to increased operating reserves and revalued capitalized software. The loss for the quarter ended October 1986 included a \$1.1-million provision for restructuring costs.
10. MacNeal-Schwendler acquired A.O. Smith's subsidiary, CAD COMP.
11. MSA generates approximately 40% of revenue and essentially all of its income during the fourth quarter.
12. MSA's 1987 results were due to a change in accounting methods used, including a change in revenue recognition.
13. Micropro's loss was due to increased uncollectible receivables resulting from First Software's Chapter 11 filing.



14. Scientific Software's loss included net charges of \$13 million for the write-down of assets and a provision for losses on accounts receivable.
15. Scientific Software's loss included an \$848,000 charge representing the termination of a lease obligation.
16. Silvar-Lisco's results were restated to reflect a change in revenue recognition methods and include the cumulative effect on prior years.
17. Silvar-Lisco's loss included a charge of \$850,000 for the disposal of certain computer equipment and capitalized purchased software.
18. Software Publishing attributed \$500,000 of the loss to First Software, a major customer that filed for bankruptcy during the quarter. The remaining losses were due to investments in new-product development and to a severe sales decline.
19. Software Publishing's increased net income during the past two quarters was due to improved sales of all products, especially the new products Pfs:First Publisher and Pfs:First Choice, and the revised version of Harvard Graphics.

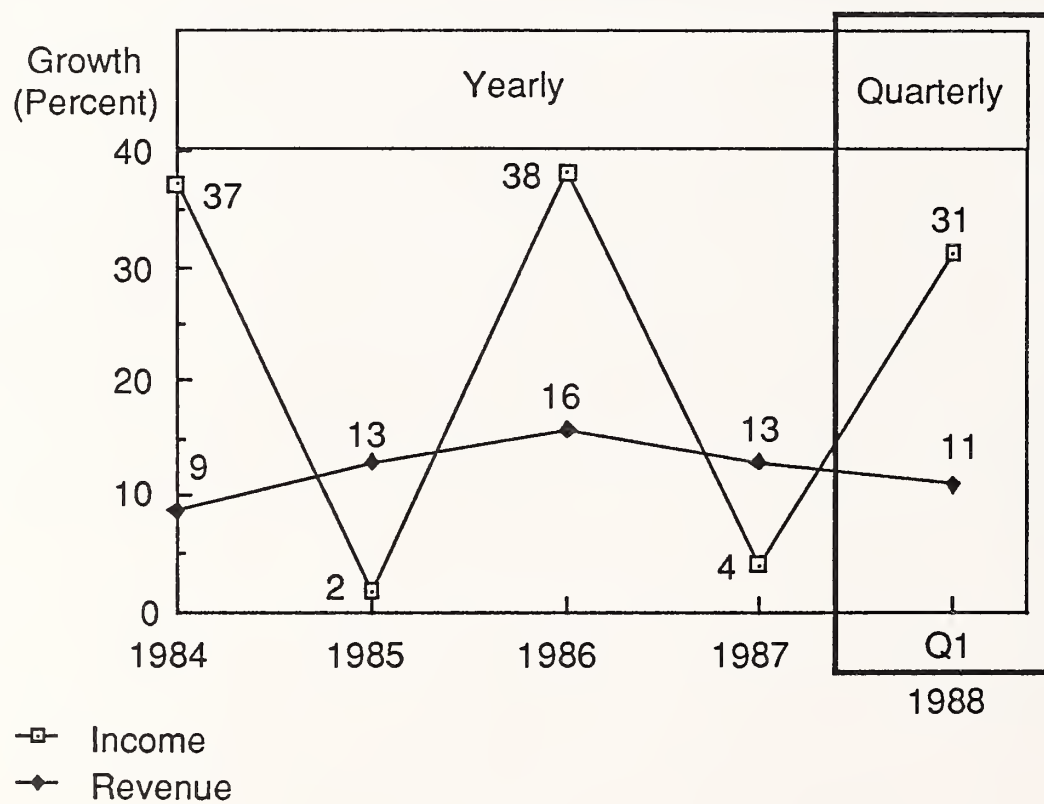


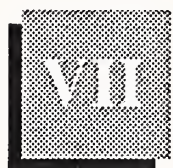


# Public Government Professional Services Vendors



## PUBLIC GOVERNMENT PROFESSIONAL SERVICES VENDORS





## Government Professional Services Trends Analysis

Government professional services include management consulting activities related to EDP systems consulting, production of custom software, education and training for government, as well as systems operations (facilities management) of government-owned computers where the vendors provide human resources to operate and manage the government facility.

Revenue growth for this segment was 11% for the first quarter, which is the lowest growth rate for any of the segments. However, the consistent results of the group reflect the stability of the government professional services market. Bolt Beranek & Newman and Telos showed the highest growth rates of all the government professional services vendors.

Growth in earnings for this segment experienced fluctuations and showed gains of 47%. Intermetrics, Logicon, and Softech were largely responsible for this growth. Telos and American Management Systems sustained the only marginal losses for this segment.

The first-quarter profit margin for the group was 4%, compared to 3% for the year 1987.

## REVENUES OF PUBLIC GOVERNMENT PROFESSIONAL SERVICES VENDORS

		REVENUE (\$ Millions)										GROWTH (Percent)			
COMPANY NAME	FISCAL YEAR END	Q2	1986				Q1	Q2	1987			1988	1987/ 1986 %(+/-)	Last 3 Rolling Quartrs	Last 2 Rolling Quartrs
			Q3	Q4	TOTAL			Q3	Q4	TOTAL	Q1				
AM. MGMT. SYS.	31-Dec	32.8	35.9	37.1	135.5		38.1	41.0	44.7	50.5	174.3	50.1	29	31	34
BDM INTL	31-Dec	79.8	89.5	82.2	322.2		80.0	80.3	75.1	78.6	314.0	73.0	-3	-10	-7
BBN	30-Jun	49.3	48.6	53.7	196.6		59.1	72.4 <sup>1</sup>	70.2	78.1	279.8	79.5	42	41	40
C.A.C.I.	30-Jun	26.6	26.1	29.2	106.8		29.7	33.8	34.1	33.7	131.3	33.7	23	19	14
COMPUTER DATA	30-Jun	13.2	11.8	13.0	51.8		13.3	14.8	16.2	16.8	61.1	16.4	18	30	26
CSC	01-Apr	234.0	249.4	257.5	977.7		290.5 <sup>2</sup>	274.6	281.3	287.3	1133.7	309.1	16	10	9
DYNAMICS RES.	25-Dec	17.8	17.8	22.4	75.2		18.4	21.5	21.0	30.6	91.5	20.4	22	23	25
INTERMETRICS	28-Feb	12.0	12.7	11.6	46.5		11.4	11.3	12.2	12.0	47.0	11.8	1	1	3
LOGICON	31-Mar	50.2	51.6	49.1	204.5		53.8	47.9	53.1	56.7	211.5	61.3	3	11	15
SOFTECH	31-May	13.2	10.7	10.5	45.8		9.9	12.4	10.9	12.3	45.5	12.4	-1	14	21
STERLING S/W	30-Oct	56.5	48.9	45.3	209.6		46.0	46.8	52.1	52.1	197.0	50.2	-6	10	12
TELOS	31-Mar	19.2	19.5	20.3	76.9		20.5	22.0	24.1	25.8	92.4	27.4	20	28	31
TOTALS		604.8	622.7	631.9	2449.2		670.7	678.9	694.9	734.6	2779.1	745.3	13	13	14

12 COMPANIES

## NET INCOME OF PUBLIC GOVERNMENT PROFESSIONAL SERVICES VENDORS

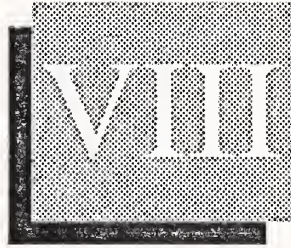
		NET AFTER TAX INCOME (\$ Millions)										GROWTH (Percent)		
COMPANY NAME	FISCAL YEAR END	Q2	1986		TOTAL	Q1	Q2	1987	Q4	TOTAL	1988 Q1	1987/1986 % (+/-)	Last 3 Rolling Quarters	Last 2 Rolling Quarters
AM. MGMT. SYS.	31-Dec	1.1	1.5	1.7	5.2	1.1	1.3	1.9	3.3	7.6	0.9	45	43	52
BDM INTL	31-Dec	3.5	3.1	4.2	13.6	4.6	5.1	4.5	5.5	19.7	5.3	45	30	24
BBN	30-Jun	3.4	3.2	3.4	12.9	3.7	-18.3 <sup>3</sup>	4.1	4.3	-6.1	4.5	-147	27	25
C.A.C.I.	30-Jun	0.5	0.5	0.7	1.7	0.6	0.9	1.0	1.0	3.6	1.0	104	66	49
COMPUTER DATA	30-Jun	0.5	0.4	0.4	1.8	0.4	0.6	0.8	0.9	2.7	0.7	49	110	98
CSC	01-Apr	6.7	7.2	7.6	30.3	10.8 <sup>4</sup>	9.5	9.9	10.3	40.5	13.9	34	33	31
DYNAMICS RES.	25-Dec	0.5	0.6	0.8	2.5	0.7	0.8	0.9	1.4	3.7	0.7	52	44	42
INTERMETRICS	28-Feb	0.2	0.0	0.2	0.8	0.0	0.4	0.5	0.6	1.5	0.7	84	662	585
LOGICON	31-Mar	2.4	2.2	2.2	9.3	-0.7 <sup>5</sup>	2.3	2.5	2.5	6.5	1.8	-30	83	182
SOFTECH	31-May	0.6	0.5	0.5	2.2	-1.6 <sup>6</sup>	0.3	0.4	0.3	-0.7	0.1	-132	216	137
STERLING S/W	30-Oct	2.2	-2.5 <sup>7</sup>	1.9	3.5	1.2	1.7	1.3	2.4	6.6	1.4	88	693	22
TELOS	31-Mar	0.8	0.7	0.7	2.2	0.5	1.1	1.0	1.1	3.8	0.4	69	36	28
TOTALS		22.4	17.2	24.2	86.1	21.3	5.7	28.7	33.8	89.4	31.4	4	50	43



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Footnotes

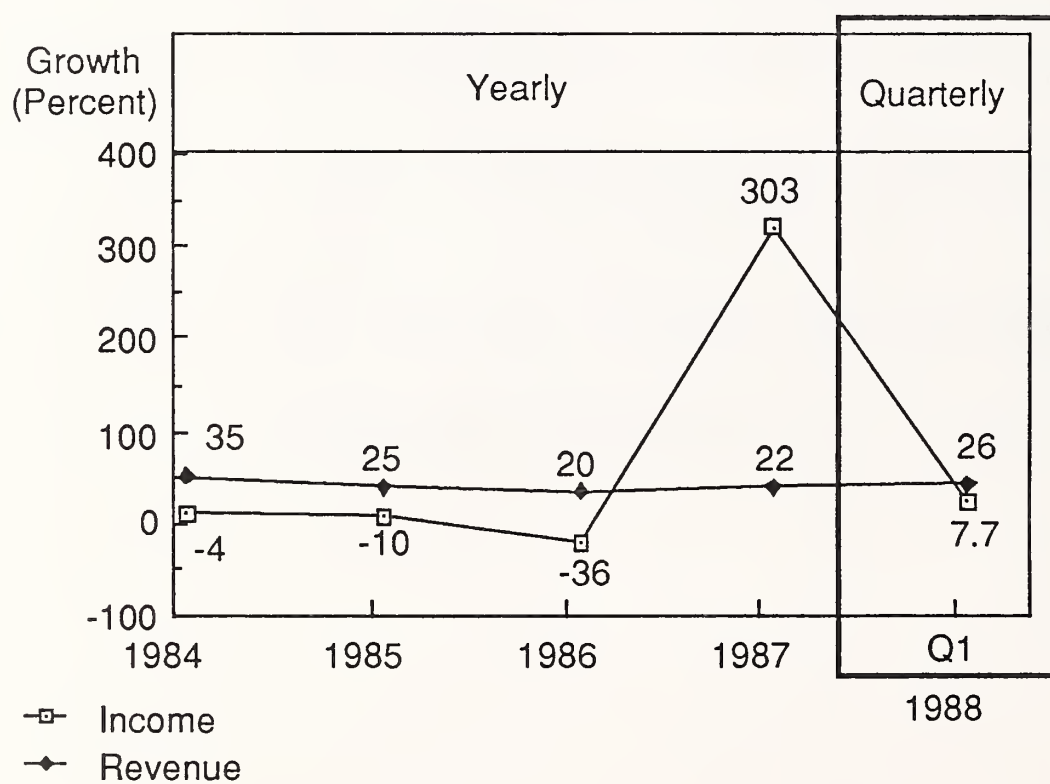
1. Bolt Beranek and Newman's revenue growth reflects the fiscal 1987 acquisitions of Delta Graphics, Inc. and Network Switching Systems, Inc.
2. Computer Sciences' principal growth area has been in federal systems and services, although revenue from all of its business sectors has grown.
3. Bolt Beranek and Newman's loss included a \$22.4 million charge for development costs related to the acquisition of Network Switching Systems, Inc. and the issuance of stock warrants in conjunction with the formation of two research-and-development limited partnerships.
4. Computer Sciences' fiscal 1987 earnings increase reflected improved operating margins and a decrease in corporate charges as a percent of sales.
5. Logicon's loss was due to its decision to provide an additional \$5 million reserve for contract loss against fiscal 1987 earnings.
6. SofTech's loss included a \$2.9 million write-off of a lease commitment related to previously divested SofTech Microsystems.
7. Sterling Software's loss included a one-time charge-against-earnings of \$84.5 million for prepayment on debt.



# Public Commercial Professional Services Vendors



## PUBLIC COMMERCIAL PROFESSIONAL SERVICES VENDORS





## Commercial Professional Services Trends Analysis

The total sample was 12 government professional services companies. Commercial professional services include management consulting activities related to EDP systems consulting, production of custom software, and education and training for commercial business, as well as systems operations (facilities management) of client-owned computers where the vendor provides human resources to operate and manage the client facility.

Revenue for the commercial professional services segment rose 26% over first quarter 1987. 202 Data Systems demonstrated the largest increase for the group.

Earnings for this segment increased by 79%. 202 Data Systems and Systems & Computer Technology made significant gains in earnings, which were somewhat offset by the losses sustained by ACT and Continuum.

The first-quarter profit for the group was 3%, compared to 2% for the year 1987.

The total sample was 11 public commercial professional services companies.

## REVENUES OF PUBLIC COMMERCIAL PROFESSIONAL SERVICES VENDORS

		REVENUE (\$ Millions)										GROWTH (Percent)		
COMPANY NAME	FISCAL YEAR END	Q2	1986		TOTAL	Q1	Q2	1987	Q4	TOTAL	1988 Q1	1987/1986 %(+/-)	Last 3 Rolling Quarts	Last 2 Rolling Quarts
202 DATA SYS	31-Oct	0.4	2.3	0.1	3.3	0.5	0.6	0.7	0.1	1.9	1.0	-44	-37	96
ACT	31-Dec	4.0	4.4	3.4	15.2	3.2	3.7	2.1 <sup>1</sup>	2.0	11.0	1.7	-28	-47	-43
AGS COMPUTERS	31-Dec	89.3	95.4	114.4 <sup>2</sup>	381.7	114.9	115.0	125.5	141.3	496.7	151.5	30	29	28
ANALYSTS INTL	30-Jun	12.1	12.0	13.9	49.6	15.3	15.5	16.1	17.1	64.0	18.3	29	25	21
COMP. HORIZONS	28-Feb	14.2	14.4	14.6	56.0	15.3	16.4	17.5	19.5	68.7	19.0	23	26	28
COMP. TASK GROUP	31-Dec	35.5	36.5	38.7	143.4	39.3	41.1	43.2	46.4	170.1	50.4	19	22	24
CONTINUUM	31-Mar	14.1	14.1	14.5	54.9	15.6	14.5	18.4	15.4	63.9	17.8	16	17	11
KEANE	31-Dec	9.6	10.4	10.5	40.4	10.1	10.1	10.9	12.4	43.5	13.7	8	19	26
SYS. & COMP.	30-Sep	10.1	10.2	10.1	40.9	9.1	13.9	9.0	9.7	41.6	10.0	2	-3	2
TECHNALYSIS	31-Dec	3.2	3.5	3.7	13.5	3.6	3.5	3.8	3.7	14.6	4.2	8	9	9
TEKNOWLEDGE	30-Jun	4.3	5.4	5.5	19.2	4.6	5.0	4.4	3.8	17.8	3.5	-7	-24	-28
TOTALS		196.8	208.6	229.5	818.2	231.5	239.2	251.5	271.4	993.7	291.1	21	22	22

11 COMPANIES

## NET INCOME OF PUBLIC COMMERCIAL PROFESSIONAL SERVICES COMPANIES

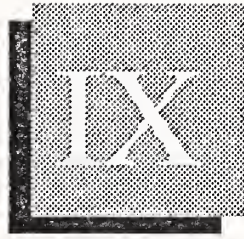
		NET AFTER TAX INCOME (\$ Millions)										GROWTH (Percent)		
COMPANY NAME	FISCAL YEAR END	Q2	Q3	1986 Q4	TOTAL	Q1	Q2	1987 Q3	Q4	TOTAL	1988 Q1	1987/ 1986 %(+/-)	Last 3 Rolling Quartrs	Last 2 Rolling Quartrs
202 DATA SYS	31-Oct	0.1	0.3	0.1	0.6	0.1	0.2	0.3	0.0	0.6	0.7	-9	82	237
ACT	31-Dec	0.3	0.2	0.1	0.7	0.1	0.0	0.0	-0.3 <sup>3</sup>	-0.1	-0.3	-109	-234	-416
AGS COMPUTERS	31-Dec	2.1	2.3	2.7	8.8	2.7	3.6	4.0	3.9	14.2	5.0	62	65	62
ANALYSTS INTL	30-Jun	-0.3	-0.9	0.7 <sup>4</sup>	-1.1	0.7	0.9	0.7	0.7	3.1	0.8	380	309	7
COMP. HORIZONS	28-Feb	0.5	0.5	0.6	2.2	0.5	0.5	0.6	0.7	2.3	0.7	6	19	22
COMP. TASK GROUP	31-Dec	1.3	1.2	1.3	5.1	1.4	1.1	1.3	1.2	5.1	1.7	1	9	8
CONTINUUM	31-Mar	0.6	0.6	0.9	0.9	1.0	0.5	1.7	1.2	4.5	-1.0	426	-26	-90
KEANE	31-Dec	-0.2	0.0	0.2	0.3	0.3	0.2	0.1	0.3	0.9	0.6	212	98	71
SYS. & COMP.	30-Sep	-0.7	-4.3	-0.5	-15.1 <sup>5</sup>	-2.2	3.2	0.4	-0.6	0.7	0.2	105	100	86
TECHNALYSIS	31-Dec	0.2	0.3	0.3	1.1	0.3	0.3	0.3	0.4	1.3	0.4	26	29	35
TEKKNOWLEDGE	30-Jun	-0.3	0.3	0.5	0.9	-0.7	-2.9 <sup>6</sup>	-1.3	-6.7	-11.7 <sup>7</sup>	-1.1	-1458	-10242	-3486
TOTALS		3.6	0.6	7.0	4.1	4.3	7.6	8.2	0.8	20.8	7.7	406	40	-25



## Footnotes

1. ACT's decreased revenue represents a transfer of its software division to InterACT, a joint venture with LSI Logic.
2. AGS Computer attributed its revenue improvement to its banking software products group and its microcomputer distribution subsidiary, Microamerica. During the fourth quarter, the company completed the following acquisitions: Advanced Programming, Systemtech, and Vista Concepts.
3. ACT's loss results from the recognition of a loss on the company's interest in its joint venture with LSI Logic, in addition to a provision covering possible future losses that may result from a debtor being placed into receivership and from a client's default on an agreement with ACT's wholly-owned subsidiary, Creative Socio-Medics.
4. Analysts International attributed the improvement in net income to cost-cutting efforts and an infusion of new business. In addition, because of income tax credit carry-forwards and a loss for the first part of the year, a tax credit was applied to pretax income during the fourth quarter.
5. Systems and Computer Technology's first-quarter loss included a \$14.9 million charge to operations for a class action litigation settlement, legal fees, and related expenses. This result largely accounted for the decrease in net income of the whole sector in first quarter 1986. The company's remaining losses were attributed to lower than expected revenues, particularly from new sales, due to the litigation and a changing marketplace.
6. Teknowledge's fiscal 1987 losses were due to lower than expected software product revenue, increased marketing and sales expenses, a \$1.1 million write-off of computer hardware and capitalized software costs, and approximately \$200,000 of nonrecurring expenses.
7. Teknowledge's loss was attributed to continued weakness in software products licensing revenues.

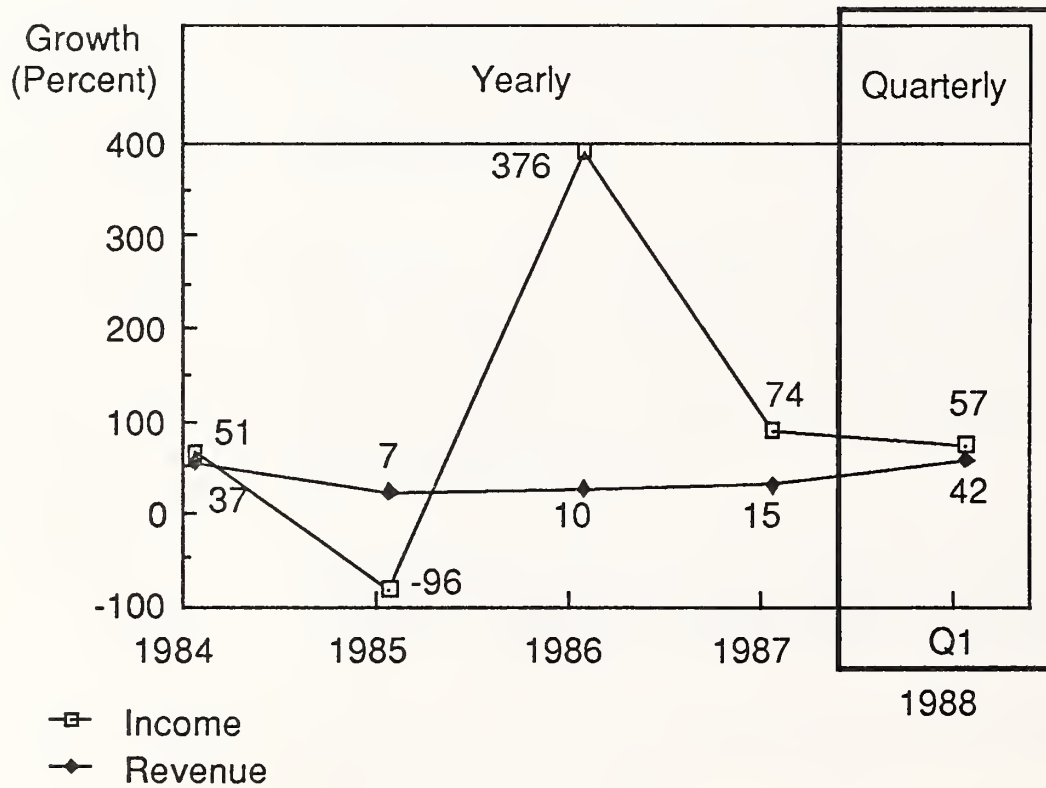


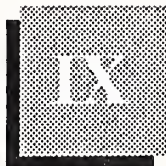


# Public Turnkey Systems Vendors



## PUBLIC TURNKEY SYSTEMS VENDORS





## Turnkey Systems

Turnkey systems are the integration of systems software, packaged or customized application software, CPU, equipment, and peripherals. These systems are developed to meet a specific set of user requirements (e.g., physician's office management systems and CAD/CAM systems).

Revenues for this segment showed growth of 42% for the first quarter. The most impressive growth rates were exhibited by Computervision and Cerner.

Earnings for the first quarter were 82%. Interleaf posted the most substantial growth in earnings (274%), followed by Computervision, Computer Consoles, Daisy Systems, and Systems Integration—all of whom grew at a rate in excess of 100%. Losses were posted for Penta Systems, Barrister Information, and Computer Design; these losses reduced overall gains for the segment.

The first-quarter profit for the group was 5%, compared to 6% for 1987.

The total sample was 23 public commercial professional services companies.

## REVENUES OF PUBLIC TURNKEY SYSTEMS VENDORS

		REVENUE (\$ Millions)										GROWTH (Percent)		
COMPANY NAME	FISCAL YEAR END	1986				1987					1988 Q1	1987/1986 % (+/-)	Last 3 Rolling Quarts	Last 2 Rolling Quarts
		Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL				
ASK COMPTR SYS	30-Jun	26.6	20.3	21.2	85.7	25.4	31.4	26.6	32.3	115.8	37.0	35	43	49
AUTO-TROL TECH	31-Dec	14.9	15.4	16.5	62.3	18.0	18.0	17.8	22.2	76.0	19.2	22	19	20
AVANT-GARDE	30-Apr	4.4	4.6	5.0	18.1	3.3	5.6	4.7	3.8	17.4	2.6	-4	-14	-22
BARRISTER INFO	31-Mar	5.6	8.2	8.6	33.2	11.0	8.3	9.3	9.3	37.8	10.9	14	6	3
C3	31-Mar	14.7	21.4	25.3	73.1	24.9	24.5	24.3	35.3	108.9	17.9 <sup>1</sup>	49	8	6
CERNER	31-Dec	4.0	5.4	7.2	17.4	5.6	7.3	8.5	12.3	33.6	11.4	94	77	86
COMPTTEK RESRCH	31-Mar	7.2	8.0	9.2	32.1	10.1	10.1	10.5	12.8	43.6	14.7	36	39	42
COMPTR CONSOLES	31-Dec	33.1	34.0	41.3 <sup>2</sup>	129.6	35.6	35.8	37.8	39.2	148.4	39.2	15	5	2
COMPTR DESIGN	31-Aug	0.8	0.9	0.7	3.4	0.7	1.0	1.0	0.5	3.3	0.7	-4	-5	-14
COMPUTERVISION	31-Dec	119.3	125.9	136.5	494.7	139.8	136.5	132.3	155.4	564.0	363.7 <sup>3</sup>	14	62	88
COMPUTRAC	31-Jan	2.7	2.7	2.0	9.8	2.0	2.2	1.6	1.6	7.4	1.4	-24	-30	-23
DAISY SYSTEMS	30-Sep	23.1	25.0	25.4	96.0	23.8	24.1	27.6	28.0	103.5	28.6	8	14	15
GERBER SCI.	30-Apr	54.4	56.3	53.4	213.0	59.8	61.8	64.4	68.8	254.8	68.9	20	19	22
HBO	31-Dec	37.6	36.0	40.1	154.8	37.4	43.7	45.0	49.1	175.2	40.7	13	19	16
INTERGRAPH	31-Dec	150.4	151.0	157.4	605.7	128.5 <sup>4</sup>	160.2	157.1	195.3	641.1	174.7	6	21	29
INTERLEAF	31-Mar	6.4	8.6	10.4	32.2	11.8	10.5	12.7	17.0	52.1	18.1	62	55	58
ISC SYSTEMS	30-Jun	46.4	40.2	34.8 <sup>5</sup>	162.4	43.6	49.9	44.1	41.8	179.4	42.4	11	8	7
LIBRA SYSTEMS	31-Oct	1.2	1.3	1.1	4.9	1.0	0.8	1.0	0.6	3.3	0.6	-31	-37	-43
PENTA SYSTEMS	31-Dec	5.2	5.5	5.1	21.6	4.4	5.2	6.5	5.9	22.0	4.5	2	14	11
REYNOLDS & R	30-Sep	102.1	133.6	129.0	452.5	141.6	140.4	151.7	138.4	572.1	151.5	26	9	7
SYS INTEGRATION	30-Sep	18.0	19.2	16.1	69.4	13.6	13.5	15.7	15.2	57.9	16.9	-17	-2	8
TENERA	31-Dec	9.2	9.6	9.9	35.3	9.8	9.5	8.5	8.3	36.1	8.5	2	-13	-15
TRIAD SYSTEMS	30-Sep	26.3	32.0	27.2	111.2	26.4	28.4	35.2	26.6	116.6	30.3	5	8	6
TOTALS		713.7	765.2	783.1	2918.2	778.0	828.5	843.9	919.9	3370.4	1104.9	15	23	30

23 COMPANIES

## NET INCOME OF PUBLIC TURNKEY SYSTEMS VENDORS

		NET AFTER TAX INCOME (\$ Millions)									GROWTH (Percent)			
COMPANY NAME	FISCAL YEAR END	1986				1987					1988 Q1	1987/1986 % (+/-)	Last 3 Rolling Quarts	Last 2 Rolling Quarts
		Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL				
ASK COMPTR SYS	30-Jun	2.0	1.8	2.0	7.1	1.7	2.6	1.9	2.3	8.4	2.6	17	24	32
AUTO-TROL TECH	31-Dec	-1.8	-0.7	-3.0	-7.0	0.5	0.3	0.4	0.9	2.0	0.6	129	158	159
AVANT-GARDE	30-Apr	-0.8	-0.9	-0.5	-4.5	-4.2	0.1	0.1	-0.4	-4.4	-2.3	3	55	44
BARRISTER INFO	31-Mar	-0.6	0.0	0.3	1.0	1.2 <sup>6</sup>	0.1	0.4	-0.1	1.6	-0.2	55	-94	-118
C3	31-Mar	0.5	0.0 <sup>7</sup>	1.7	1.9	2.0	2.3	2.5	7.9	14.7	2.0	682	237	169
CERNER	31-Dec	0.7	0.9	1.4	2.3	0.7	0.7	1.1	1.6	4.0	1.0	76	21	24
COMPTek RESRCH	31-Mar	0.1	0.2	0.3	0.7	0.4	0.3	0.4	0.4	1.4	0.1	105	0	-27
COMPTR CONSOLES	31-Dec	-0.9	1.6	1.9	-3.0	0.8	0.9	0.6	9.0	11.3	1.9	479	164	299
COMPTR DESIGN	31-Aug	0.1	-0.1	0.0	0.1	0.0	0.3	0.0	-0.1	0.3	0.0	133	-106	-470
COMPUTERVISION	31-Dec	-3.4	1.2	3.5	-5.8	5.8	4.1	1.5	8.0	19.5	14.5	437	130	143
COMPUTRAC	31-Jan	0.5	0.6	0.5	2.0	0.2	0.5	-1.0 <sup>8</sup>	0.0	-0.4	0.3	-121	-159	-52
DAISY SYSTEMS	30-Sep	-1.8	-0.9	1.3	-6.1	-4.9 <sup>9</sup>	-10.5 <sup>10</sup>	0.5	1.0	-14.0	1.3	-129	162	164
GERBER SCI.	30-Apr	4.7	4.8	5.2	19.7	6.4	6.5	7.5	7.7	28.0	7.9	42	41	35
HBO	31-Dec	-6.3 <sup>11</sup>	0.9	1.0	-3.6	0.8	2.4	3.4	6.7	13.3	1.0	469	306	325
INTERGRAPH	31-Dec	17.3	15.5	19.5	70.4	10.0	16.8	18.4	24.7	69.9	17.1	-1	34	42
INTERLEAF	31-Mar	-1.2	-0.3	0.4	-0.8	0.6	0.5	1.0	3.0	5.2	2.4	749	757	444
ISC SYSTEMS	30-Jun	4.2	2.8	0.0	10.8	1.1	2.6	2.2	2.2	8.1	2.1	-25	64	272
LIBRA SYSTEMS	31-Oct	0.6 <sup>12</sup>	-0.3	0.0	-0.1	-0.2	-0.1	0.2	-0.4	-0.5	-0.4	-423	-30	-430
PENTA SYSTEMS	31-Dec	0.3	0.4	-0.3 <sup>13</sup>	0.6	-0.3	-1.7 <sup>14</sup>	0.4	0.1	-1.4	-0.5	-330	118	38
REYNOLDS & R	30-Sep	6.5	7.0	4.5	23.4	5.0	5.8	5.9	2.7	19.5	1.1	-17	-41	-60
SYS INTEGRATION	30-Sep	2.8	3.0	1.9	10.0	0.6	0.7	0.8	1.6	3.8	1.3	-62	-33	14
TENERA	31-Dec	0.7	-1.4 <sup>15</sup>	1.1	0.9	2.2	2.4	2.2	2.1	8.9	2.1	927	240	27
TRIAD SYSTEMS	30-Sep	0.7	1.5	0.8	3.6	0.9	1.2	3.6	1.3	6.9	1.3	92	92	57
TOTALS		25.1	37.8	43.4	123.6	31.4	38.6	53.8	82.2	206.0	57.2	67	72	86



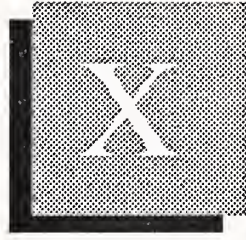
## Footnotes

1. C3 revenues and net income for the recent quarter were affected by reduced order volume on older contracts and by delays in awarding expected new contracts. The delays resulted from U.S. Government efforts to temporarily reduce spending to reach deficit goals. The company anticipates that it may continue to be affected by this cutback.
2. Computer Consoles reported that sales to its customers in the communications systems industry contributed to improved fourth-quarter revenues; sales included the shipment of \$13 million in add-on directory assistance equipment for British Telecom.
3. Computervision's increased financial figures reflect its recent (unfriendly) merger with Prime Computers.
4. Intergraph's shipments were down during the quarter, resulting in lower revenue and earnings due to a temporary shortage in the microprocessor used in the company's new workstation products.
5. ISC Systems reported that the reduced level of revenue for the quarter was the result of the rescheduling of installation dates for several major projects into the next quarter and reduced rates of add-on business to existing customers and distributors.
6. Barrister Information Systems realized a higher revenue and most of its profits during the last quarter of its fiscal year.
7. C3's earnings reflected a charge of \$7.6 million resulting from a contract settlement and a \$3.7 million pretax gain on the sale of land.
8. CompuTrac's results included a \$1.1 million capital loss attributable to the disposal of the company's equity investments.
9. Daisy Systems' losses have been attributed to a weak capital spending environment, combined with delayed shipments, product transition, and severance payments resulting from layoffs.
10. Daisy Systems' loss included pretax charges of \$5.1 million to cover fixed-asset and inventory write-downs associated with the introduction of the company's new product line and provisions for severance and other employee benefits related to staffing changes.
11. HBO's loss in second quarter 1986 reflected \$9.4 million in write-offs due to (1) internal reorganization, (2) dissolution of its holding company, (3) a write-off of capitalized software, and (4) write-downs of computer hardware to market value.

12. Libra Systems (formerly National Data Communications) formed a new company through a joint venture agreement. The extraordinary gain resulted from the difference between the market and book values of the preferred stock exchanged in the agreement.
13. Penta Systems' loss was primarily due to a write-off for obsolete inventory.
14. Penta Systems' loss included a \$600,000 bad-debt charge related to a Harper & Row sale, \$400,000 in reserve set up for previous recourse sales agreements, and \$200,000 in inventory write-downs.
15. Tenera's results included a \$2.3 million loss from discontinued wind energy operations.

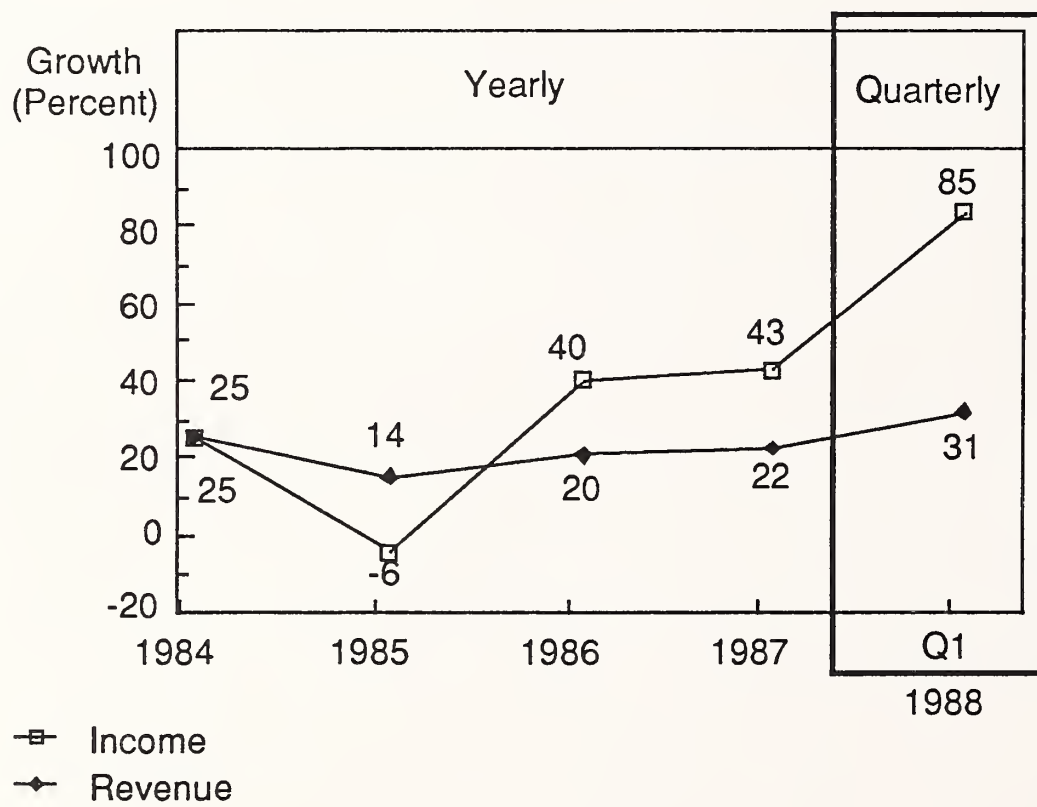


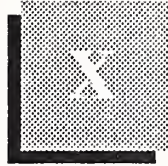




# Public Information Services Vendors

# PUBLIC INFORMATION SERVICES VENDORS





## Public Information Systems Trends Analysis

The comparison of quarterly results (e.g., 1988 revenues in the first quarter compared to 1987 revenues in the first quarter for a given service sector) allows growth or decline to be clearly observed without the effects of seasonality.

At 19%, revenue growth continued to improve slightly for the processing/network services segment. Growth in earnings remains slow despite the significant gains made by First Financial Management. As a whole, most companies in this segment displayed marginal gains at best. Worlco Data and Telecredit posted significant losses, driving the overall average down for the first quarter.

Growth remained high for the electronic services sector at 49%. This growth is primarily a result of CCX Network's very strong showing for the quarter. Earnings growth also showed real gains of 46%, despite the continued struggle of Information Resources.

The systems software sector again demonstrated excellent growth in both revenues and earnings—59% and 72% respectively. This strength reflects the entire segment, with BGS Systems leading the way. Intellicorp and Cullinet sustained the only significant losses for this segment.

Revenue growth for the application development sector was high at 29%. Earnings continue to be volatile at 214%, which may merit a closer look at Genessee and ECAD.

The government professional services group remains quite consistent, posting revenue growth of 11%. Earnings, however, seem to fluctuate somewhat, growing 47% during the first quarter, the growth primarily due to gains by Intermetrics.

Revenue growth for the commercial professional services group was 26% (after a steady decline that had occurred over the past year). Earnings of 79% reflect the healthy gains made by 202 Data Systems, Keane, and Systems & Computer Technology. ACT and Continuum continue to post fairly heavy losses in earnings.

Growth in revenues for the turnkey systems group was 42% for the first quarter 1988. Growth in earnings for this sector was 82%, driven by the strength of Interleaf.

Revenue from public information services vendors as a whole grew 31%. Earnings for the group grew 85% during the quarter. These results confirm the continued strength of the entire industry.

### PUBLIC INFORMATION SERVICES VENDORS' REVENUE GROWTH RATES (PERCENT)

		Q1	Q2	Q3	Q4	TOTAL
PROCESSING/NETWORK	1984	19	20	14	16	17
SERVICES VENDORS	1985	15	16	16	16	16
	1986	16	16	17	18	17
	1987	15	14	11	14	14
	1988	19				
ELECTRONIC	1984	91	79	102	46	76
INFORMATION	1985	29	30	22	30	28
SERVICES VENDORS	1986	34	49	40	43	42
	1987	27	25	24	22	24
	1988	49				
SYSTEMS SOFTWARE	1984	68	68	75	57	66
VENDORS	1985	32	20	12	24	22
	1986	34	51	53	39	44
	1987	56	55	51	62	56
	1988	59				
APPLICATION	1984	81	41	30	14	37
SOFTWARE VENDORS	1985	-2	22	6	12	10
	1986	29	17	24	24	23
	1987	31	39	34	20	30
	1988	29				
GOVERNMENT	1984	9	10	7	9	9
PROFESSIONAL	1985	10	13	12	18	13
SERVICES VENDORS	1986	18	17	19	10	16
	1987	13	12	11	16	13
	1988	11				
COMMERCIAL	1984	51	37	30	26	35
PROFESSIONAL	1985	31	26	25	18	25
SERVICES VENDORS	1986	11	19	22	28	20
	1987	26	22	21	18	22
	1988	26				
TURNKEY SYSTEMS	1984	39	47	33	29	37
VENDORS	1985	14	10	4	1	7
	1986	3	6	17	14	10
	1987	19	16	10	13	14
	1988	42				
TOTAL INFORMATION	1983	18	20	26	26	23
SERVICES VENDORS	1984	29	29	23	20	25
	1985	15	16	12	14	14
	1986	16	19	23	20	20
	1987	23	23	20	24	22
	1988	31				

# **PUBLIC INFORMATION SERVICES VENDORS' NET INCOME GROWTH RATES (PERCENT)**

		Q1	Q2	Q3	Q4	TOTAL
PROCESSING/NETWORK	1984	-44	23	-135	998	-1
SERVICES VENDORS	1985	134	34	1016	21	107
	1986	-2	-30	3	55	5
	1987	37	92	48	9	39
	1988	8				
ELECTRONIC	1984	59	36	30	20	34
INFORMATION	1985	40	17	5	16	19
SERVICES VENDORS	1986	1	13	41	42	24
	1987	55	69	25	40	45
	1988	46				
SYSTEMS SOFTWARE	1984	63	31	79	62	61
VENDORS	1985	64	59	2	38	37
	1986	56	43	55	41	48
	1987	40	86	59	78	66
	1988	72				
APPLICATION	1984	225	-25	-27	-72	-16
SOFTWARE VENDORS	1985	-102	48	-15	155	-7
	1986	11835	-53	85	50	53
	1987	-365	544	10	-12	-16
	1988	214				
GOVERNMENT	1984	29	29	15	67	37
PROFESSIONAL	1985	31	30	1	-29	2
SERVICES VENDORS	1986	24	47	33	49	38
	1987	-4	-75	67	39	4
	1988	47				
COMMERCIAL	1984	-6	24	-37	14	-4
PROFESSIONAL	1985	42	-40	23	-51	-10
SERVICES VENDORS	1986	-176	21	-23	165	-36
	1987	171	101	868	-80	303
	1988	79				
TURNKEY SYSTEMS	1984	121	91	20	26	51
VENDORS	1985	-74	-88	-76	-136	-96
	1986	8	155	154	394	376
	1987	131	53	42	89	74
	1988	82				
TOTAL INFORMATION	1983	3	1	29	8	10
SERVICES VENDORS	1984	28	37	-14	51	25
	1985	2	-8	16	-22	-6
	1986	13	7	43	94	40
	1987	18	80	48	35	43
	1988	85				











